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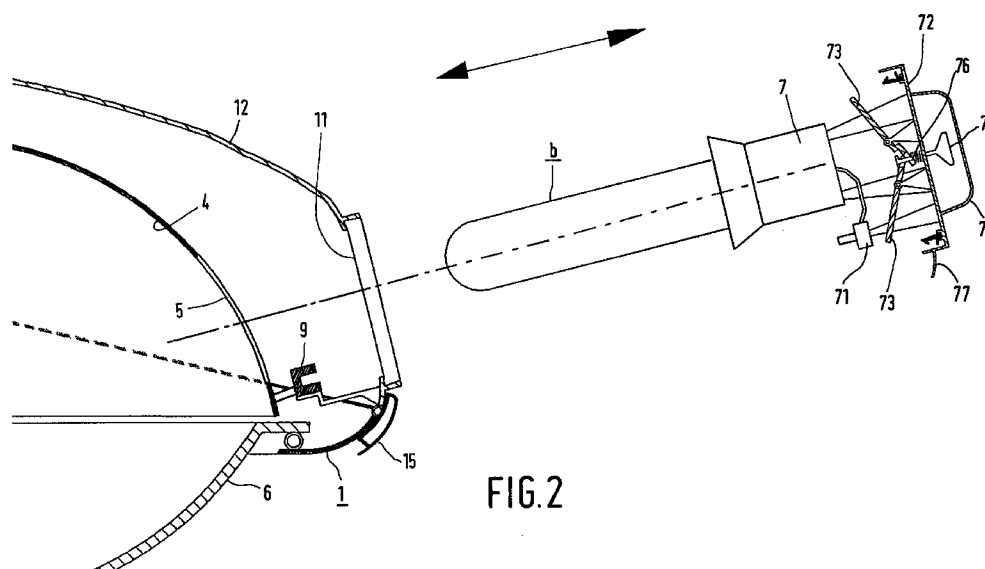
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(54) **Street lighting luminaire**

(57) The streetlighting luminaire has a housing (1) having a closed light emission window (2) in front of a reflector (4). The reflector (4) has an opening (5) for a lampholder (7) opposite to means (3) of the housing (1) to receive a pole (a). The housing (1) itself has an opening (11) which is closed by a cover (72). The cover (72) bears the lampholder (7), thereby allowing an electric lamp (b) in the lampholder (7) to be exchanged by sim-

ply unlocking the cover (72) and pulling the assembly of cover (72), lampholder (7), lamp (b) and a plug (71) to outside the housing (1), at the same time interrupting an electric connection between the plug (71) and a connector (9) mounted in the housing (1). The luminaire allows for a fast lamp exchange.



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Description

The invention relates to a sheet lighting luminaire comprising:

a housing having a light emission window and means for holding on to a mast;
 a reflector provided with a lampholder opening remote away from the means for holding on to a mast, in front of the light emission window in the housing;
 a transparent plate closing the light emission window;
 a lampholder for holding and electrically contacting a one-sided capped electric lamp inside the reflector, detachably fastened in an operational position in the lampholder opening;
 a supply unit for electrically supplying an accommodated lamp in the housing;
 an electric male connector electrically and mechanically connected to the lampholder;
 an electric female connector arranged in the housing, in electrical contact with the male connector, and electrically connected to the supply unit, which lampholder can be brought into the operational position in the lampholder opening from outside the reflector while bypassing the light emission window, and can also be removed therefrom while bypassing the light emission window, the male and female connectors making electrical contacts with one another and breaking their electrical contacts, respectively, during this.

Such a street lighting luminaire is known from EP-A-0 686 805.

The known street lighting luminaire renders it possible to replace an electric lamp in the luminaire with a new lamp in that a hinging cover of the housing is opened and the lampholder with the lamp inside is removed from the lampholder opening of the reflector without opening the light emission window.

During its removal the lampholder must be rotated before it can be taken from the reflector in a translatory movement. The electrical connection between the lampholder and the supply unit is broken with certainty upon the removal of the lampholder, so that the lamp can be safely exchanged. This is an advantage of the known luminaire.

It is a disadvantage of the luminaire, however, that the hinging cover must first be opened and be fixed in the open position before the lampholder can be brought to the exterior. The old lamp can then be screwed from the lampholder and a new lamp can be inserted. After the lampholder with the lamp has been mounted in the luminaire again, the cover can be closed.

This procedure of exchanging lamps in street lighting luminaires, which is to be carried out usually from a cherry picker on account of the height of the masts used, is comparatively time-consuming.

A street lighting luminaire is known from US-A-4,028,541 whose transparent plate with the reflector and lampholder with lamp connected thereto can hinge outwards, whereupon the lampholder can be detached for exchanging the lamp.

It is an object of the invention to provide a street lighting luminaire of the kind described in the opening paragraph which is of a simple construction which facilitates a fast replacement of an inserted electric lamp.

According to the invention, this object is achieved in that the housing has an opening through which the lampholder can be brought into its operational position in the lampholder opening, which opening in the housing is closed by means of a lid which is detachable from the housing and to which the lampholder is fastened.

The street lighting luminaire according to the invention renders it possible to exchange an inserted lamp easily and quickly in that the detachable lid is taken from the housing, and thus bringing the lampholder and the lamp held therein to the outside simultaneously, in one operation. It is a particularly attractive feature of the street lighting luminaire that the lid with the lampholder, the lamp and the connector can be fully detached electrically and mechanically and removed from the housing, so that it is possible to approach the luminaire with a spare set of the lid with the lampholder and connector fastened thereto, complete with a new lamp inserted therein. After removal of the lid from the luminaire, the spare lid assembly is placed, whereby the lamp replacement is effected. The lamp in the lid just removed may be replaced on the way to a next luminaire. The time necessary for the replacement of a lamp can be additionally reduced thereby.

It is favorable that the dimensions of the lid need be only a little larger, for example by 2 cm, than the greatest lateral dimension of the lamp to be placed in the luminaire.

In a favorable embodiment, the lampholder can be removed from its operational position by means of a linear translatory movement away from the housing. This has the advantage of an enhanced ease of replacement, but also of the possibility of using simple, for example commercially available male and female connectors which can be coupled and uncoupled by means of a simple linear translation.

It is furthermore favorable when a locking device for the lid is provided which can be operated without the use of tools, for example, an overlap clip at the housing which grips over the lid. This embodiment renders possible an even faster and easier lamp exchange.

In a favorable modification of the above, the lid itself carries the locking device. This embodiment offers the possibility of unlocking the unit formed by lid, lampholder, connector, and lamp with one hand, for example in one fluent movement, and removing it, and also of placing a new unit with a new lamp inside with the other hand and locking it.

In an embodiment, the opening in the housing is arranged in a hood with a hinge and a closure which is

part of the housing. In a modification thereof, the hood can only be rotated about the hinge so as to be opened when the lid has been removed. This has the advantage that it is prevented that the lamp and the lampholder can be touched while the hood is open, for example for inspection or maintenance, while they are live. In this modification, for example, the closure of the hood may be overlapped by the lid, for example, by a projecting tag of the lid.

An embodiment of the street lighting luminaire according to the invention is shown in the drawing, in which

Fig. 1 is a longitudinal sectional view of a luminaire with a lamp; and

Fig. 2 shows a detail of a modified version of Fig. 1, with the lamp removed therefrom.

In Fig. 1, the street lighting luminaire comprises a housing 1 provided with a light emission window 2 and means 3 for holding on to a mast a. A reflector 4 is present in the housing in front of the light emission window and is provided with a lampholder opening 5 at a side which faces away from the means 3 for holding on to a mast a. A transparent plate 6, for example made of polymethyl methacrylate, closes off the light emission window 2. In the Figure, the plate 6 is sealed against the housing 1 by means of a gasket 13. A lampholder 7, e.g. an Edison lampholder for holding and electrically contacting a one-sided capped electric lamp b within the reflector 4 is detachably fastened in an operational position in the lampholder opening 5. A supply unit 8 for electrically supplying an accommodated lamp b is present in the housing. The lamp shown is a high-pressure sodium discharge lamp with a tubular outer envelope. Alternatively, however, the lamp used may well have an ellipsoidal outer envelope.

A male electric connector 71 is electrically, to make a phase and a zero connection, and mechanically connected to the lampholder 7. A female electric connector 9 is arranged in the housing, in electric contact with the male connector 71 and electrically connected to the supply unit 8 via a cable 10. The lampholder 7 with the lamp b inside can be brought from outside the reflector 4 into its operational position in the lampholder opening 5 while bypassing the light emission window 2, and can be removed therefrom also while bypassing the light emission window 2. The male connector 71 and the female connector 9 then make electric contacts and break their electric contacts, respectively.

The housing 1 has an opening 11 through which the lampholder 7 can be brought into its operational position in the lampholder opening 5, which opening 11 in the housing 1 is closed with a lid 72 which is detachable from the housing and to which the lampholder 7 is fastened.

A hood 12, which can be opened for maintenance of the supply unit 8, of the reflector 4, and of the plate 6, forms part of the housing 1 of the luminaire shown. The

hood has a hinge 14 and a closure 15. The opening 11 is present in the hood 12.

The lampholder 7 can be removed from its operational position by means of a linear translatable movement from the housing 1, see also Fig. 2.

The luminaire has a locking device 73 for the lid 72 of the housing 1 which can be operated without tools. The locking device 73 is supported by the lid 72. In the embodiment shown, the locking device comprises hinging arms which are pressed against the inside of the housing 1, i.e. the inside of the hood 12 of the housing 1 in the Figures, by a spring 76.

The locking action can be lifted in that a button 74 at the outside of the lid 72 is pulled out, see Fig. 2. This is rendered even easier in the modification shown in Fig. 2, where a handle 75 is present on the lid 72 by which the unit shown can be gripped and carried. During gripping, it is possible to pull the button 74, so that the locking arms 73 hinge towards one another and their free ends assume a smaller interspacing. The lid 72 may as a result be removed in one fluent movement with one hand while the lock is being operated, complete with the lampholder 7, the lamp b, and the connector 71 from the housing, i.e. from the operational position of the lampholder 7, or may be connected to the housing in said position in such a movement.

The hood can only be opened after the lid 72 with the lamp b has been removed from the housing. A projecting tag 77 of the lid 72 overlaps the closure 15 after the lid 72 has been placed.

Claims

1. A street lighting luminaire comprising:

- a housing (1) having a light emission window (2) and means (3) for holding on to a mast (a);
- a reflector (4) provided with a lampholder opening (5) remote from the means (3) for holding on to a mast (a), in front of the light emission window (2) in the housing;
- a transparent plate (6) closing the light emission window (2);
- a lampholder (7) for holding and electrically contacting a one-sided capped electric lamp (b) inside the reflector (4), detachably fastened in an operational position in the lampholder opening (5);
- a supply unit (8) for electrically supplying an accommodated lamp (b) in the housing;
- an electric male connector (71) electrically and mechanically connected to the lampholder (7);
- an electric female connector (9) arranged in the housing, in electrical contact with the male connector (71), and electrically connected to the supply unit (8),

wherein the lampholder (7) can be brought into the operational position in the lampholder opening (5) from outside the reflector

(4) while bypassing the light emission window (2), and can also be removed therefrom while bypassing the light emission window (2), the male (71) and female (9) connectors making electrical contacts with one another and breaking their electrical contacts, respectively, during this,

characterized in that the housing (1) has an opening (11) through which the lampholder (7) can be brought into its operational position in the lampholder opening (5), which opening (11) in the housing (1) is closed by means of a lid (72) which is detachable from the housing and to which the lampholder (7) is fastened.

2. A street lighting luminaire as claimed in Claim 1, characterized in that the lampholder (7) can be removed from its operational position by means of a linear translatory movement away from the housing (1).
3. A street lighting luminaire as claimed in Claim 1 or 2, characterized in that a locking device (73) for the lid (72) is provided which can be operated without the use of tools.
4. A street lighting luminaire as claimed in Claim 3, characterized in that the lid (72) supports the locking device (73).
5. A street lighting luminaire as claimed in Claim 4, characterized in that the lid (72) mounted to the housing can be unlocked and removed from the housing (1) with one hand in one fluent movement.
6. A street lighting luminaire as claimed in Claim 4 or 5, characterized in that the lid (72) can be mounted and locked to the housing (1) with one hand in one fluent movement.
7. A street lighting luminaire as claimed in any one of the preceding Claims, characterized in that the opening (11) in the housing (1) is present in a hood (12) with a hinge (14) and a closure (15), which hood forms part of the housing (1).
8. A street lighting luminaire as claimed in Claim 7, characterized in that the hood (12) can be rotated about the hinge (14) exclusively when the lid (72) has been removed.

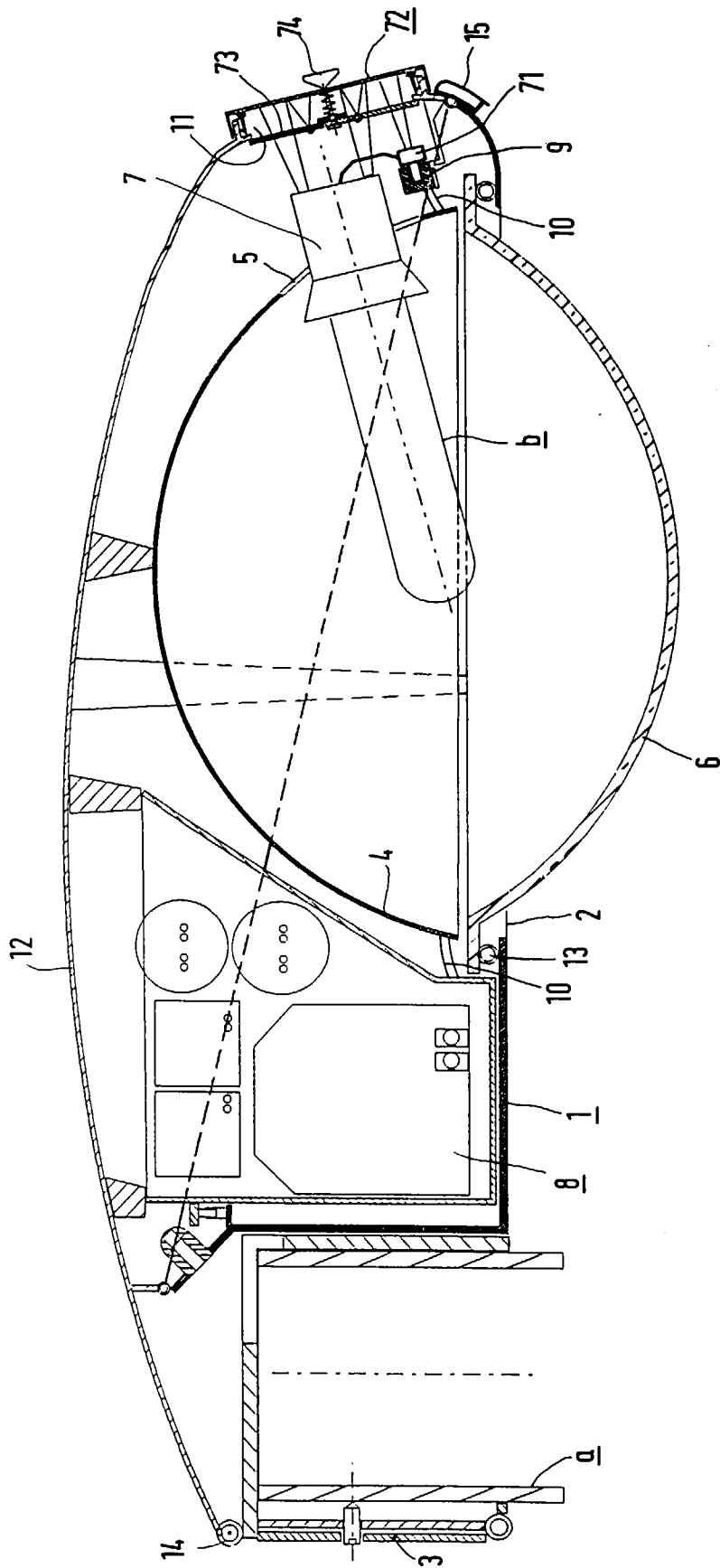


FIG.1

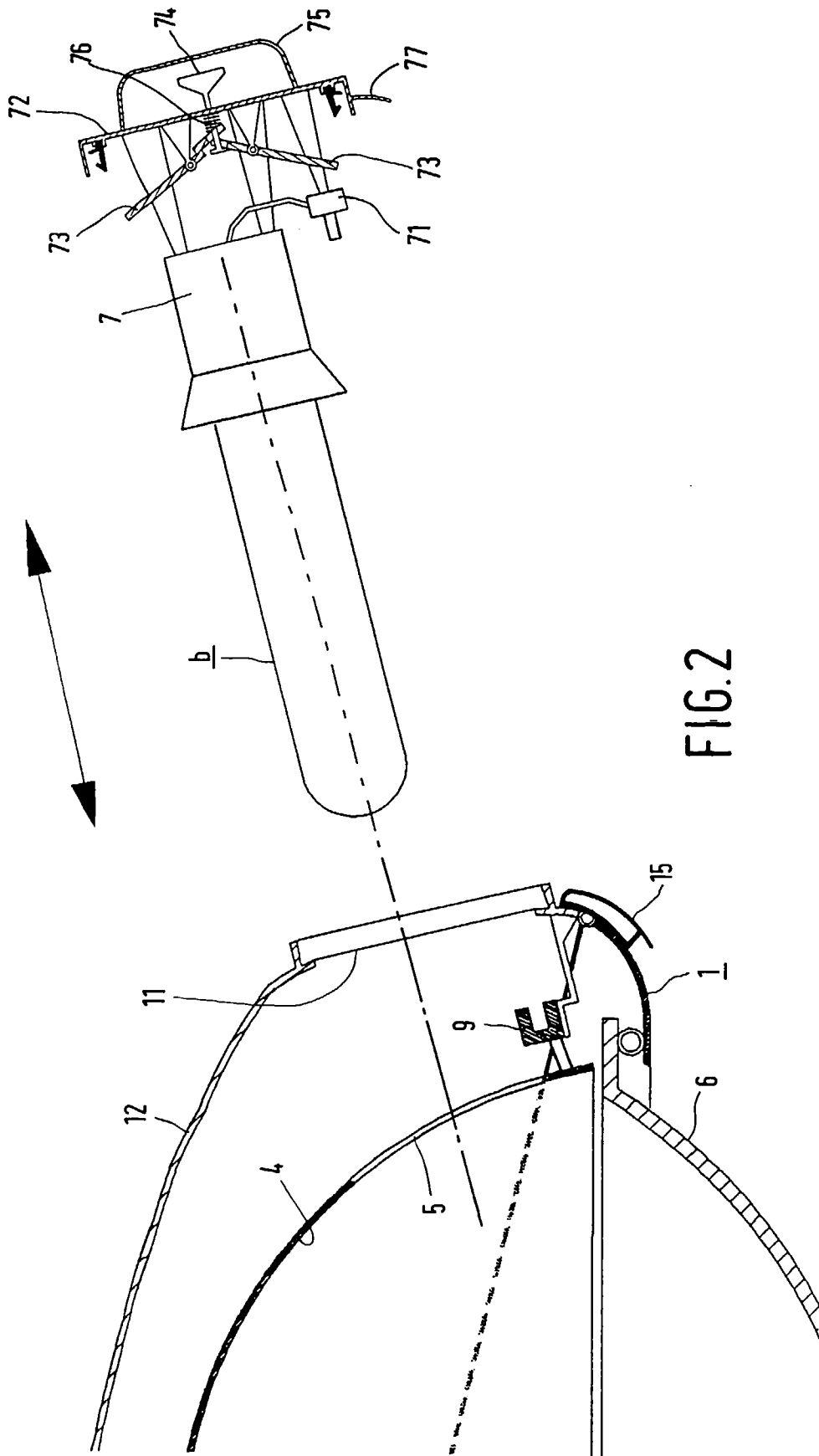


FIG.2



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EUROPEAN SEARCH REPORT

Application Number
EP 97 20 0397

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y,D	EP 0 686 805 A (THORN EUROPHANE) * column 5, line 17 - line 29 * * column 5, line 53 - line 58 * * column 6, line 15 - line 25 * * column 6, line 30 - column 7, line 1 * * column 7, line 50 - column 8, line 44 * * figures 1,4-7 *	1-6	F21S1/00 F21V19/04 F21V25/02 F21S1/10
Y	WO 96 05467 A (LEE) * page 3, line 20 - line 26 * * page 3, line 29 - line 30 * * page 3, line 34 - page 4, line 12 * * page 4, line 20 - page 5, line 34 *	1-6	
A	DE 39 10 191 C (FRANZ SILL GMBH) * column 2, line 44 - column 4, line 17; figures 1-5 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			F21V F21S
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 13 May 1997	Examiner De Mas, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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